



# TECHNICAL INFORMATION

*Excellence in Electronics*

TRIODE

TYPE

CK5842

The CK5842 (417A) is a heater-cathode type, high transconductance triode of miniature construction. The design features of low noise, low interelectrode capacitances, and very high transconductance make this type suitable for service in wide band amplifier stages, and especially grounded-grid operation. The useful frequency range extends from low to very high frequencies. The heater-cathode construction is designed to withstand many thousands of cycles of intermittent operation.

## MECHANICAL DATA

ENVELOPE: T-6½ Glass

BASE: Miniature Button 9-Pin.

### TERMINAL CONNECTIONS:

Pin 1 Plate	Pin 6 Cathode
Pin 2 No Connection	Pin 7 Grid
Pin 3 Heater	Pin 8 Grid
Pin 4 Grid	Pin 9 Heater
Pin 5 Grid	

MOUNTING POSITION: Any

## ELECTRICAL DATA

### DIRECT INTERELECTRODE CAPACITANCES: ( $\mu\text{fds}$ )

Plate to Cathode and Heater
Input (k to g + h)
Output (p to g + h)

### Without Shield

0.55 max.
9.0
1.8

### RATINGS—ABSOLUTE MAXIMUM VALUES:

Heater Voltage (ac or dc)
Plate Voltage
Plate Dissipation
Cathode Current
Heater-Cathode Voltage
Bulb Temperature

6.3 ± 10% volts
200 volts
4.5 watts
38 ma
55 volts
160 °C

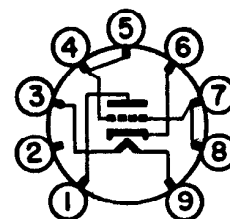
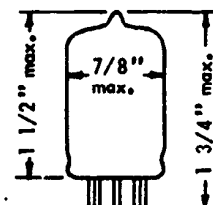
### CHARACTERISTICS AND TYPICAL OPERATION:

Heater Voltage
Heater Current
Plate Voltage
Cathode Bias Resistance
Grid Voltage
Plate Current
Plate Resistance
Transconductance
Amplification Factor

6.3
0.3
150
60
0
25
1700
25,000
43

6.3 volts
0.3 ma
130 volts
360 ohms
+9 volts
27 ma
1600 ohms
27000 umhos
43

300 mμ



BOTTOM VIEW

9V

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Tentative Data

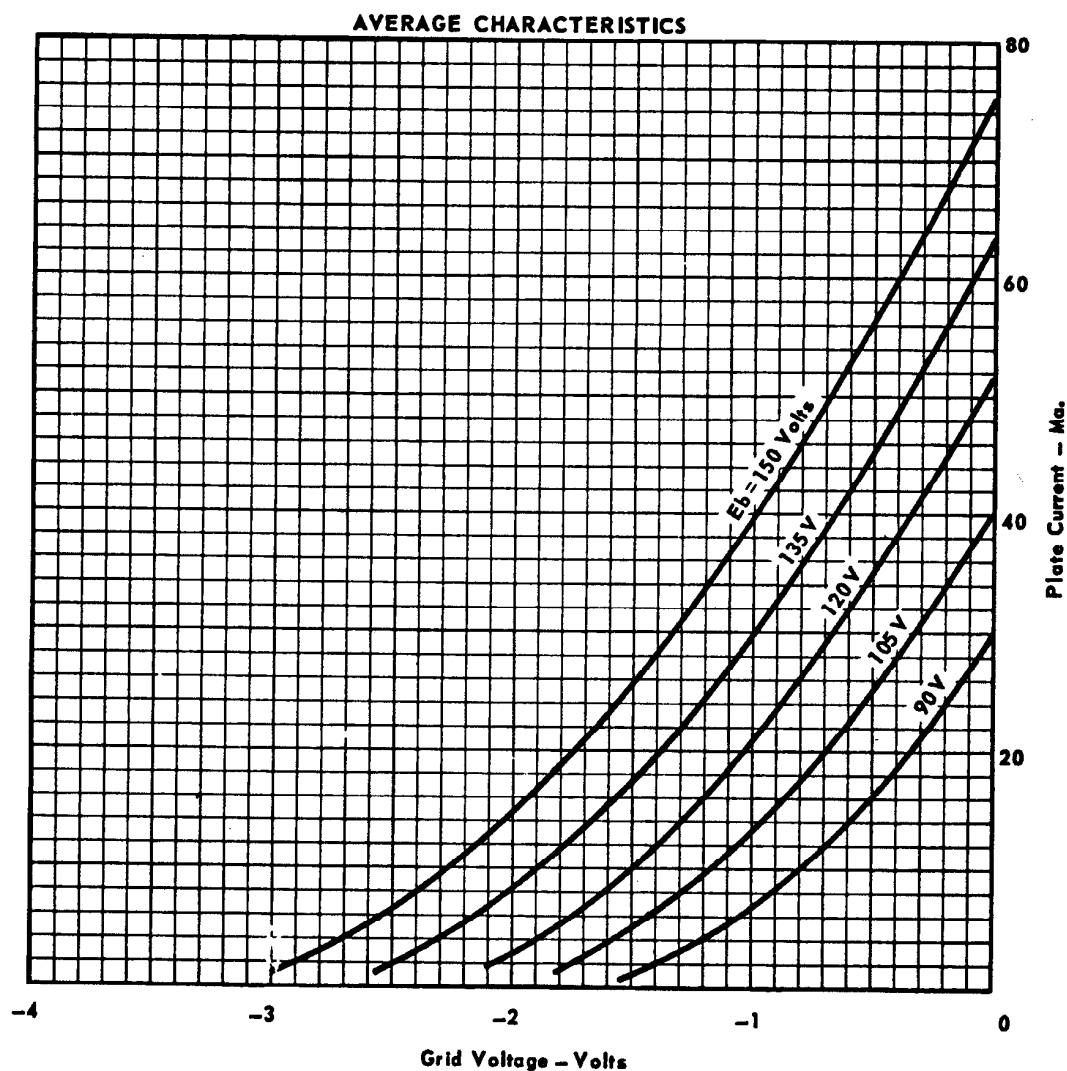
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RECEIVING TUBE AND SEMICONDUCTOR OPERATIONS

NEWTON 58, MASS.



## TRIODE

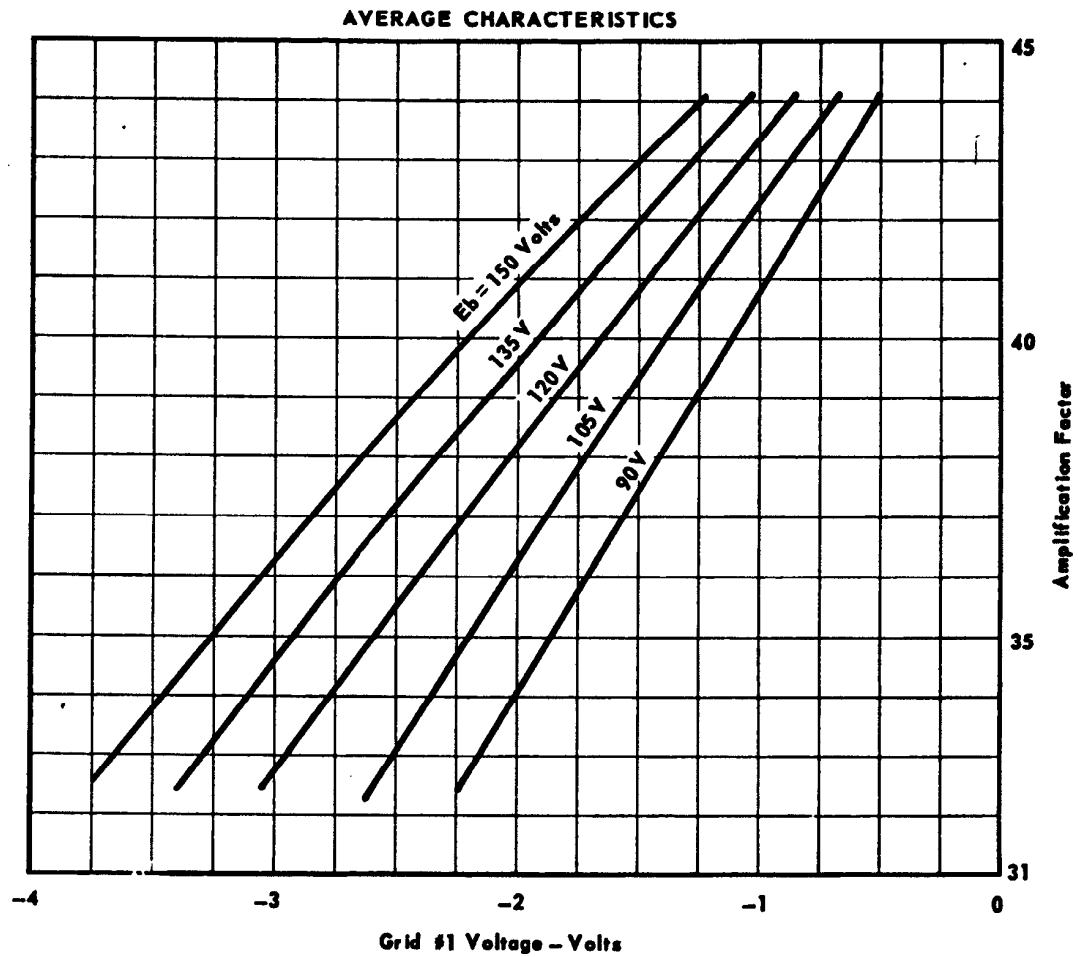


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TYPE CK5842

TRIODE



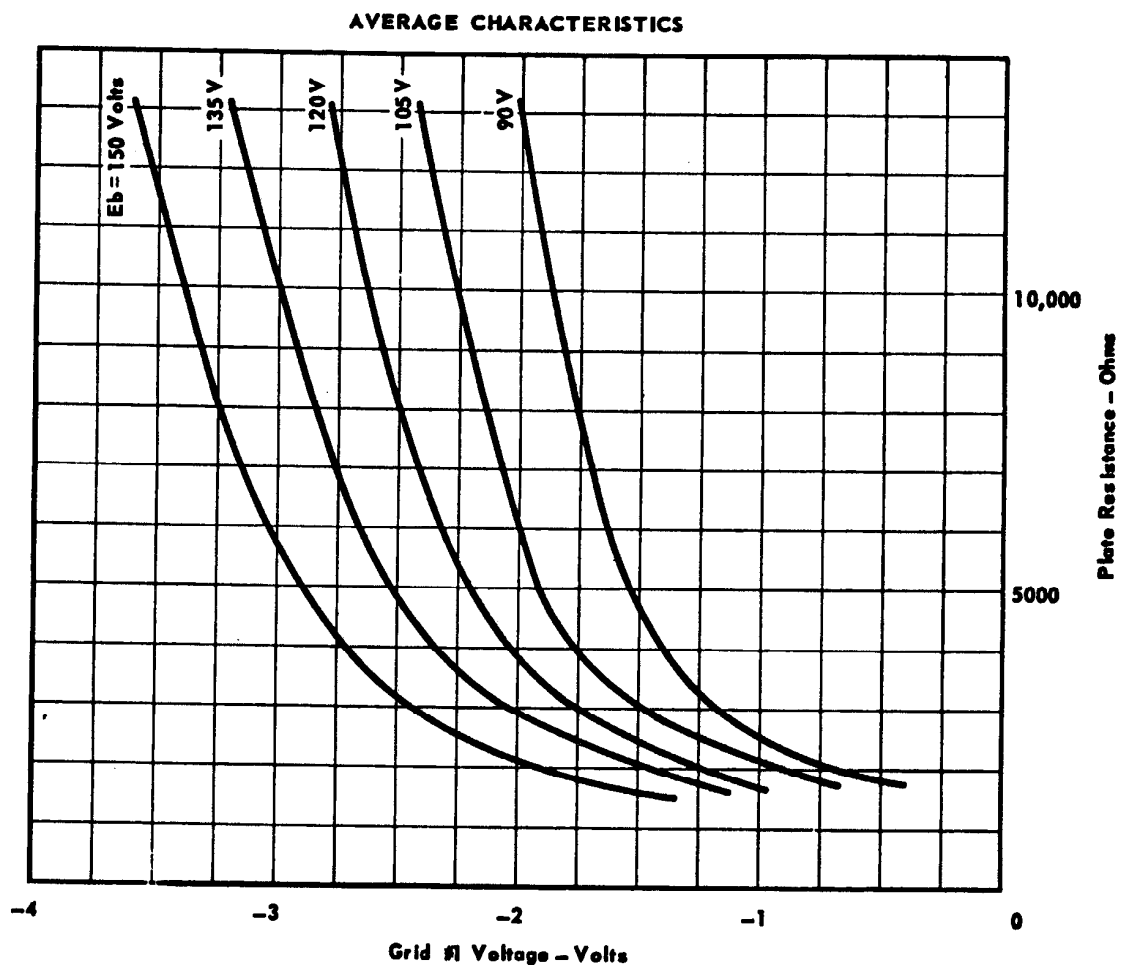
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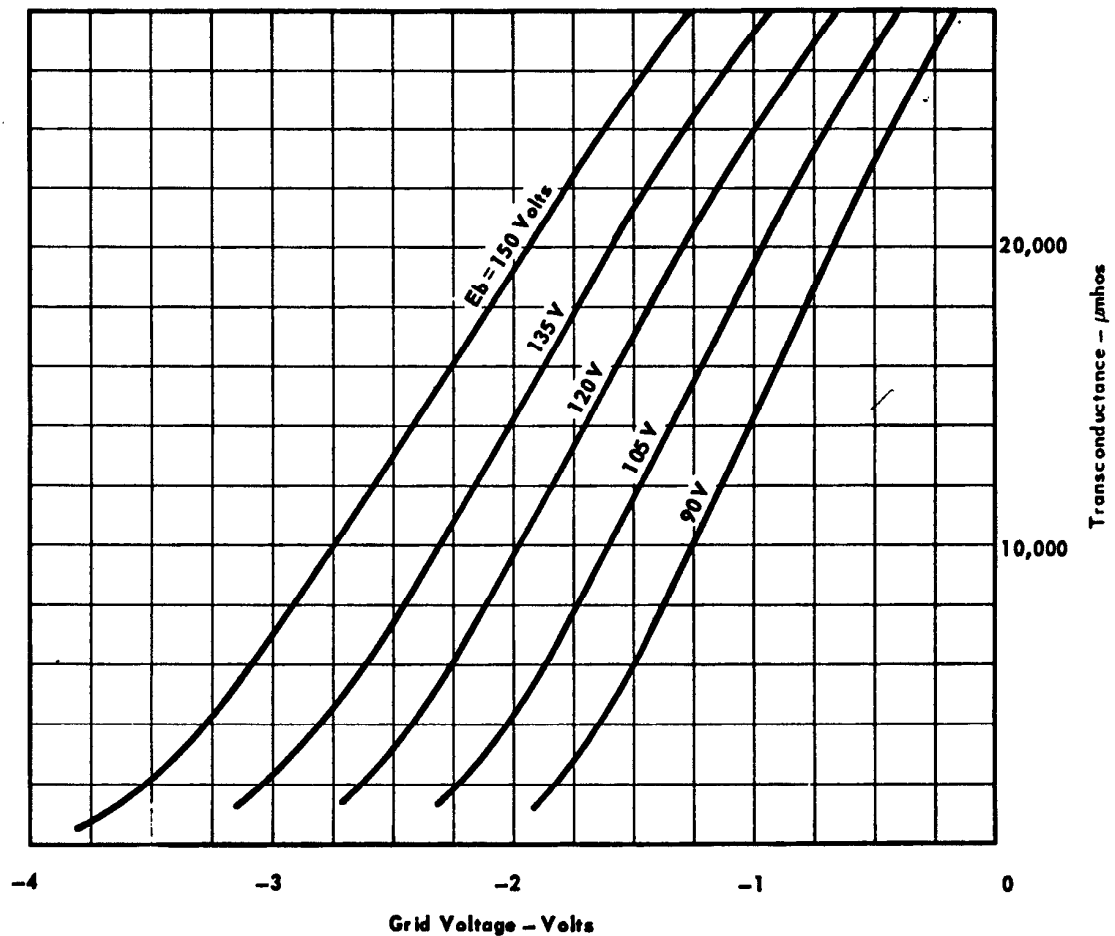
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TYPE CK5842

TRIODE

AVERAGE CHARACTERISTICS



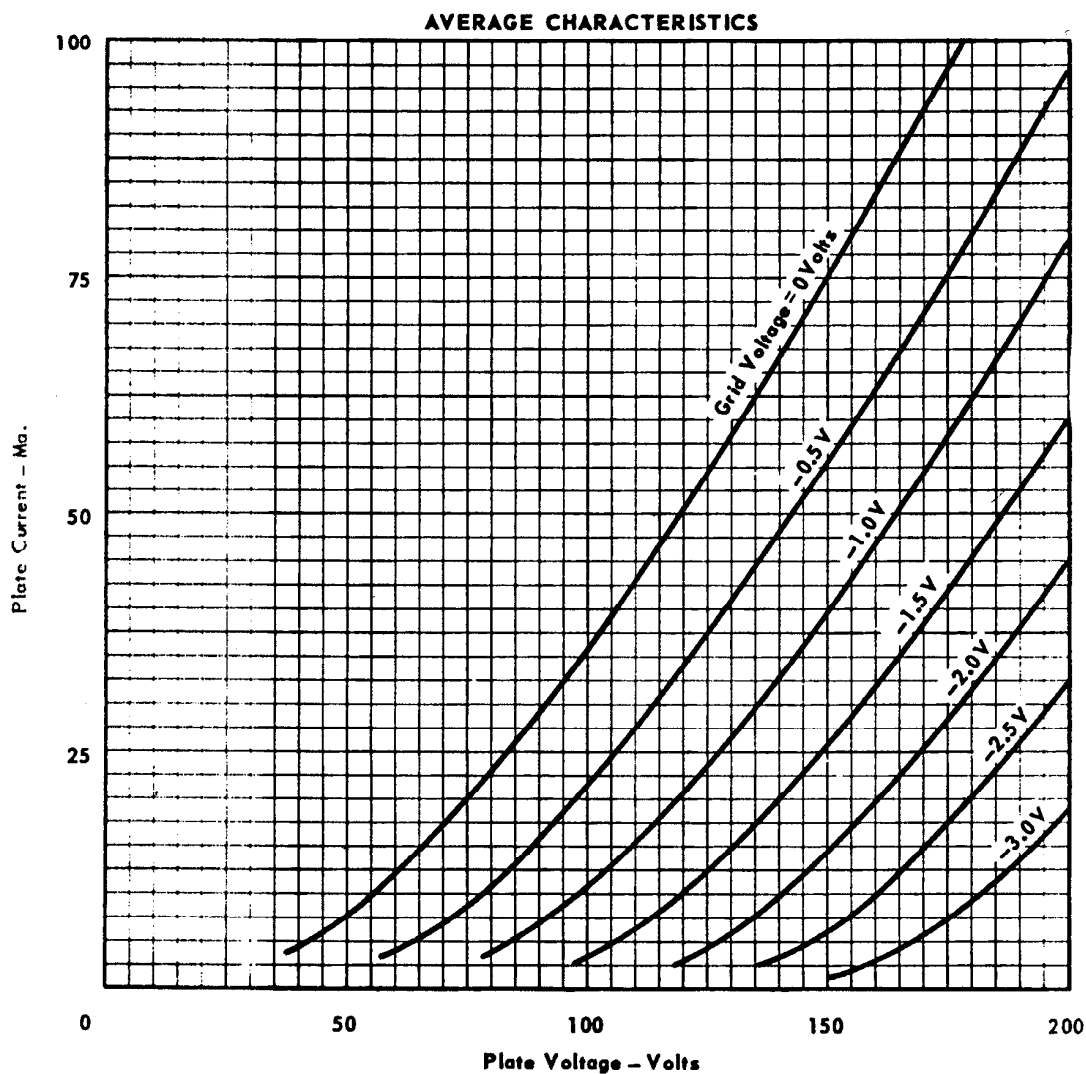
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NEWTON 58 MASS



## TRIODE



RAYTHEON MANUFACTURING COMPANY  
VACUUM TUBE AND SEMICONDUCTOR OPERATIONS

**RAYTHEON**

TECHNICAL  
INFORMATION  
SERVICE

# Technical Information

RELIABILITY CONTROL SUPPLEMENT

**5842**

RELIABILITY  
CONTROLLED  
10,000 HOUR LIFE  
TRIODE

## RELIABILITY CONTROLLED 10,000 HOUR LIFE

Type 5842 is one of Raytheon's Reliability Controlled tubes and is warranted\* for 10,000 hours of useful life when operated under the following approved conditions:

$E_f = 6.3V \pm 5\%$ ;  $E_b = 150 Vdc$ ;  $E_c = 0$ ;  $R_k = 60 \text{ ohms}$ .

To control reliability a randomly selected statistical sample is operated under above conditions plus an  $E_{hk}$  of 100 Vdc and an  $R_g$  of 0.47 meg. for 10,000 hours. The Reliability Controlled 10,000 Hour Life Test end points are:

Transconductance.....	17,500 umhos, min.
Heater-cathode leakage.....	10 uAdc, max.
Grid current.....	-1.0 uAdc, max.

\*Long Life Warranty is applied to lots of 100 tubes minimum. Raytheon warrants these tubes to have an average useful life of over 10,000 hours. The end of useful life may be considered to have been reached when transconductance under normal test conditions falls below 17,500 umhos. See "10,000 Hour Reliable Life Certificate for Reliability Controlled Tubes" for warranty details.

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